

7 mARS

Work Order ID 157417

157417

Page 1

Tuesday, February 21, 2017 1:13:01 PM

Item ID: D4634-141 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Fwd, Center Ceiling Replacement Panel Assembly
 Start Date: 2/27/2017 Start Qty: 1.00 ***1*** Cust Item ID:
 Required Date: 3/3/2017 Req'd Qty: 1.00 ***1*** Customer:
 Reference:

Approvals: Process Plan:  Date: FEB 21 2017 Tooling: Date: Run Start ***NR1***
 QC: Date: SPC (Y/N): Date: Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D4634	G								DAS 07 9-89
100		0.00							
100									
HandThermo	Memo	0.14				x/			17/03/09
Hand Finishing Thermoforming	Pick Kit								
110		0.00							DAS 07 9-89
110									
Small Fab	Memo	0.21				x/			17/03/09
Small Fab	Assemble as per Dwg D4634-141								

1- Scuff bonding surface to eliminate in-perfections and increase bonding and clean with wash& wipe

2- Locate and glue down Channel Assy, angles, brackets, and mounting pads using 3M Plastic welder II.

Batch # 136812 M132023 *ok.*

Expiry Date FEB 27/18 17-MAY-29 *ok.*

3- Apply labels as per Dwg. and seal with 3M 3950 edge sealer

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐		Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐					
		OTHER : _____							

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Page 2

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Required Date: 3/3/2017 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
125	QC5- Inspect part completeness to step on W/O	0.00							
125									
QC	Memo	0.00				1			EB
Quality Control									17-03-09
130	Identify as per dwg & Stock Location: Sold	0.00							
130									
Packaging	Memo	0.00				1			DAS 27 9-89 MAR 09 2017
Packaging									
140	QC21- Final Inspection - Work Order Release	0.00							
140									
QC	Memo	0.02							DAS 21 9-89 MAR 09 2017
Quality Control									

DAS
21
9-89
MAR 09 2017
MAR 09 2017
MAR 09 2017

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
☐ Environment	☐ No Re-verification	☐ Pressure/Forced	☐ Temperature/Cure	☐ Power Loss/Surge	☐ Positioned Wrong		
☐ Design	☐ Operator	☐ Bending	☐ Set-up	☐ Folio/Program	☐ Outside Dimensions		
☐ Doc/Data	☐ Offset/Setup	☐ Centre Not Concentric	☐ BOM/Route	☐ Grain	☐ Over/Under tolerance		
☐ Equip/Tooling	☐ Supplier	☐ Cracks	☐ Broken/Damage/Defect	☐ Weld	☐ Part Incorrect		
☐ Handling/Pre	☐ Training	☐ Crimp/Kink/Ripple/Wave	☐ Inspection Incomplete/Unqualified	☐ Wrong Stock Pulled	☐ Part Lost/Missing		
☐ Material	☐ Use for Testing	☐ Cuffs	☐ Contamination	☐ Out of Sequence	☐ Part Moved		
☐ Internal Transport	☐ Poor Information	☐ Crushing	☐ Countersink	☐ Off-set	☐ Drawing		
☐ Tribal Knowledge	☐ Rushing	☐ Heat Treat	☐ Cut Too Short	☐ Mislabeled	☐ Finish		
☐ LOA	☐ Product Improvement	☐ Wave/Twist in Tube	☐ Instructions Incomplete/Unclear	☐ Fit/Function	☐ Misread		
☐ Substation	☐ Process Improvement	☐ Marks/Chatter	☐ Drill Holes	☐ Misaligned/off center	☐ Turning Sequence		
☐ Past Expiry Date	☐ Manufacturing Process	OTHER : _____					
☐ Misidentified	☐ Past Due						

Tuesday, February 21, 2017 1:13:07 PM

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D5021-1		Manufactured	No			100	Each	0.0000	1	1			DAS 07 9-89
D5021-1									**				17/03/07
Foam, Center Panel, Fwd													
MS20426AD3-4		Purchased	No			100	Each	8,624.000	4	4			DAS 07 9-89
MS20426AD3-4									**				17/03/07
RIVET													
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				GA		4725							
					m136444	4725							
				ST312		3899							
					m134294	3899							
MS20426AD4-6		Purchased	No			100	Each	2,088.000	2	2			DAS 07 9-89
MS20426AD4-6									**				17/03/07
Rivet													
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				GA		1720							
					M134502	25				2			
					M136537	1695							
				ST311		368							
					M134502	368							

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
☐ Environment	☐ No Re-verification	☐ Pressure/Forced	☐ Temperature/Cure	☐ Power Loss/Surge	☐ Positioned Wrong		
☐ Design	☐ Operator	☐ Bending	☐ Set-up	☐ Folio/Program	☐ Outside Dimensions		
☐ Doc/Data	☐ Offset/Setup	☐ Centre Not Concentric	☐ BOM/Route	☐ Grain	☐ Over/Under tolerance		
☐ Equip/Tooling	☐ Supplier	☐ Cracks	☐ Broken/Damage/Defect	☐ Weld	☐ Part Incorrect		
☐ Handling/Pre	☐ Training	☐ Crimp/Kink/Ripple/Wave	☐ Inspection Incomplete/Unqualified	☐ Wrong Stock Pulled	☐ Part Lost/Missing		
☐ Material	☐ Use for Testing	☐ Cuffs	☐ Contamination	☐ Out of Sequence	☐ Part Moved		
☐ Internal Transport	☐ Poor Information	☐ Crushing	☐ Countersink	☐ Off-set	☐ Drawing		
☐ Tribal Knowledge	☐ Rushing	☐ Heat Treat	☐ Cut Too Short	☐ Mislabeled	☐ Finish		
☐ LOA	☐ Product Improvement	☐ Wave/Twist in Tube	☐ Instructions Incomplete/Unclear	☐ Fit/Function	☐ Misread		
☐ Substation	☐ Process Improvement	☐ Marks/Chatter	☐ Drill Holes	☐ Misaligned/off center	☐ Turning Sequence		
☐ Past Expiry Date	☐ Manufacturing Process	OTHER : _____					
☐ Misidentified	☐ Past Due						

Picklist Print

Tuesday, February 21, 2017 1:13:07 PM

Work Order ID: 157417

157417

Parent Item: D4634-141

D4634-141

Parent Item Name: Fwd, Center Ceiling Replacement Panel Assembly

Start Date: 2/27/2017

Required Date: 3/3/2017

Start Qty: 1.00

Required Qty: 1.00

MS21059L08

Purchased

No

100

Each

178.0000

2

2

MS21059L08

Nut

**

DAS
07
9-89

17/03/07

Location

Loc Qty

Loc Code

ST300

178

m134943

78

m136554

100

2

D4634-1

Manufactured

No

100

Each

0.0000

1

1

D4634-1

Fwd, Center Ceiling Panel

D4636-5

Manufactured

No

100

Each

45.0000

1

1

D4636-5

Bracket

**

DAS
07
9-89

17/03/07

DAS
07
9-89

17/03/07

Location

Loc Qty

Loc Code

ST115

45

149102

1

154779

20

154916

24

1

D4647-5

Manufactured

No

100

Each

7.0000

1

1

D4647-5

Doubler

**

DAS
07
9-89

17/03/07

Location

Loc Qty

Loc Code

MF004

7

129252

7

1

D4664-5

Manufactured

No

100

Each

45.0000

6

6

D4664-5

Spacer

**

DAS
07
9-89

17/03/07

Location

Loc Qty

Loc Code

MF004

45

154825

45

6

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
							Completed By		
							Lead hand / Supervisor Approval Verification		
							QC / QA Coordinator Approval		
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
OTHER : ☐									

Picklist Print

Tuesday, February 21, 2017 1:13:07 PM

Page 3

Work Order ID: 157417

157417

Parent Item: D4634-141

D4634-141

Parent Item Name: Fwd, Center Ceiling Replacement Panel Assembly

Start Date: 2/27/2017

Required Date: 3/3/2017

Start Qty: 1.00

Required Qty: 1.00

D4712-1 Manufactured No

100 Each 10.0000 1 1

D4712-1

Bracket

**

DAS
07
9-89

17/03/07

Location

Loc Qty

Loc Code

MF004

10

149103

10

D4732-15 Manufactured No

100 Each 1.0000 1 1

D4732-15

Label

**

DAS
07
9-89

17/03/07

Location

Loc Qty

Loc Code

MF005

1

149086

1

D4732-19 Manufactured No

100 Each 7.0000 1 1

D4732-19

Label

**

DAS
07
9-89

17/03/07

Location

Loc Qty

Loc Code

MF005

7

123209

7

MPNY-750S-9-C Purchased No

100 Each 695.0000 7 7

MPNY-750S-9-C

Mounting Pad

**

DAS
07
9-89

17/03/07

Location

Loc Qty

Loc Code

ST569

695

M130423

695

DQA: _____ Date: _____



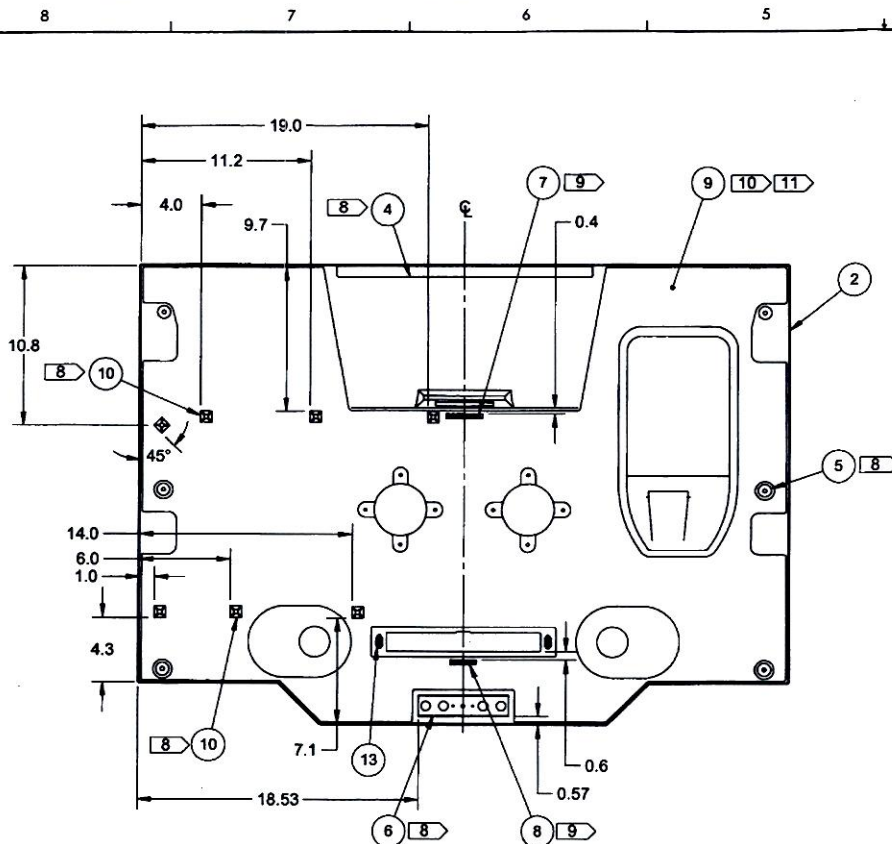
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
							Completed By Lead hand / Supervisor Approval Verification		
							QC / QA Coordinator Approval		

Root Cause				FAULT CATEGORY			
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐		
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐		
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐		
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐		
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Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐		
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐		
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐		
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐		
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐		
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____					
Misidentified ☐	Past Due ☐						

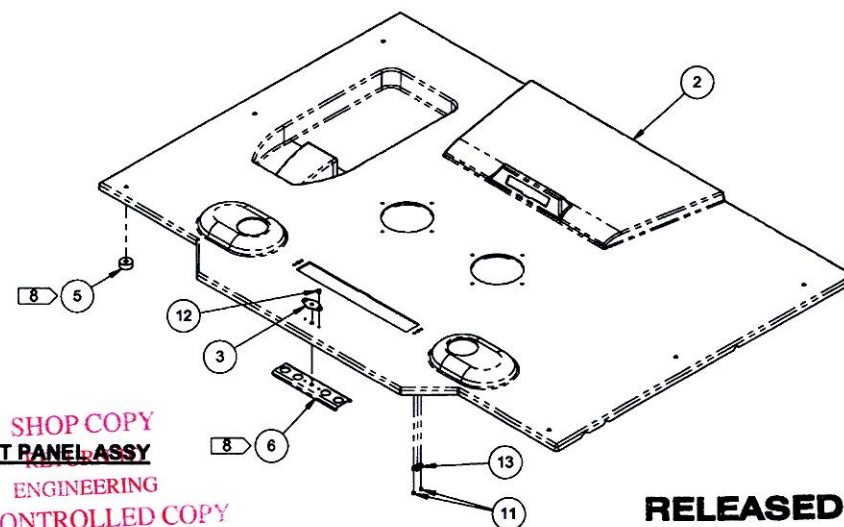


D4634-141 FWD, CENTER CEILING REPLACEMENT PANEL ASSY

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: N/A
- 8) APPLY A BEAD (0.20 TO 0.30 WIDE) OF DEVCON PLASTIC WELDER II (0.25 INSIDE OF BOTH EDGES OF PART) TO BOND D4664-5, D4712-1 & MPNY-750S-9C.
- 9) LOCATE LABELS AS SHOWN, SEAL LABELS USING 3950 EDGE SEALER OVER LABEL TOP SURFACE
- 10) APPLY AN EVEN COAT OF 3M SCOTCH WELD 1300L CONTACT ADHESIVE TO BOND D5021-1 FOAM CORE TO INSIDE OF PANEL
- 11) CENTER D5021-1 FOAM ON D4634-1

ITEM	QTY	P/N	DESCRIPTION
1	X	D4634-141	FWD, CENTER CEILING REPLACEMENT PANEL ASSY
2	1	D4634-1	FWD, CENTER CEILING PANEL
3	1	D4636-5	BRACKET
4	1	D4647-5	DOUBLER
5	6	D4664-5	SPACER
6	1	D4712-1	BRACKET
7	1	D4732-15	LABEL
8	1	D4732-19	LABEL
9	1	D5021-1	FOAM, CENTER PANEL, FWD
10	7	MPNY-750S-9-C	MOUNTING PAD
11	4	MS20426AD3-(4)	RIVET, SOLID, CSK
12	2	MS20426AD4-(6)	RIVET, SOLID, CSK
13	2	MS21059L08	NUT PLATE



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SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 15747

FEB 21 2017

RELEASED

2015 JAN 26

APPROVED

DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	AK	DRAWING NO. D4634	REV. G
MFG. APPR.	DL	SHEET 7 OF 17	
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	CENTER CEILING PANELS	NTS
DATE	14.11.28	COPYRIGHT © 2012 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS UNDERSTANDING THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED IN ANY MANNER WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	